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*The Economic Consequences of Trade
and Immigration for Local Labor Markets*

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Presentation delivered at the 2013 Annual Meeting
of the International Agricultural Trade Research Consortium (IATRC)
Clearwater Beach, FL, December 15-17, 2013

The Economic Consequences of Trade and Immigration for Local Labor Markets

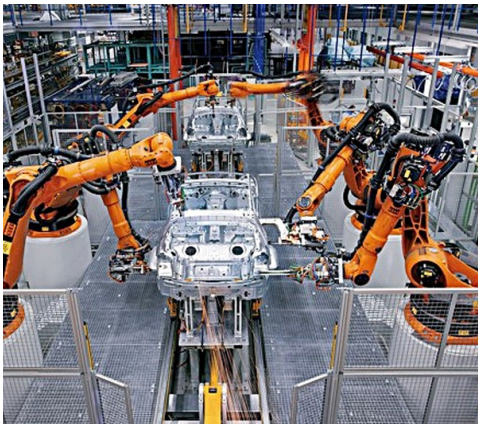
Gordon Hanson

UCSD and NBER

December 2013

Transformation of the US labor market

Technological change



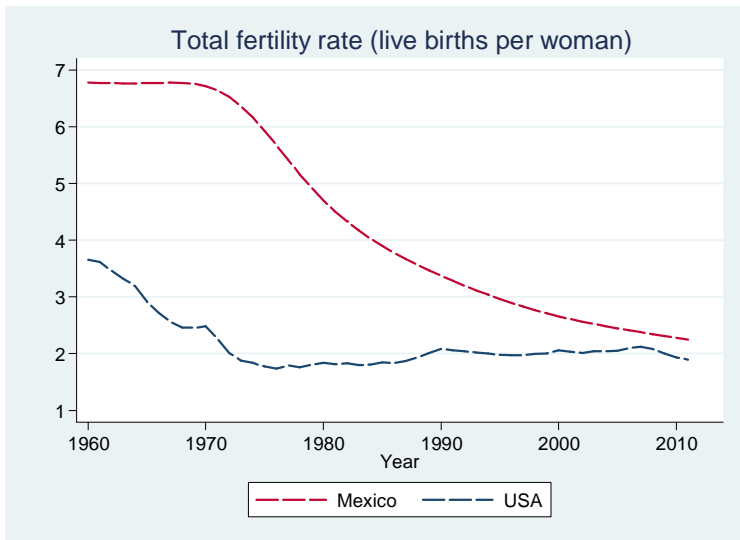
Transformation of the US labor market

Rising of emerging economies



Transformation of the US labor market

Supply-push immigration



Transformation of the US labor market

Technology, trade, immigration

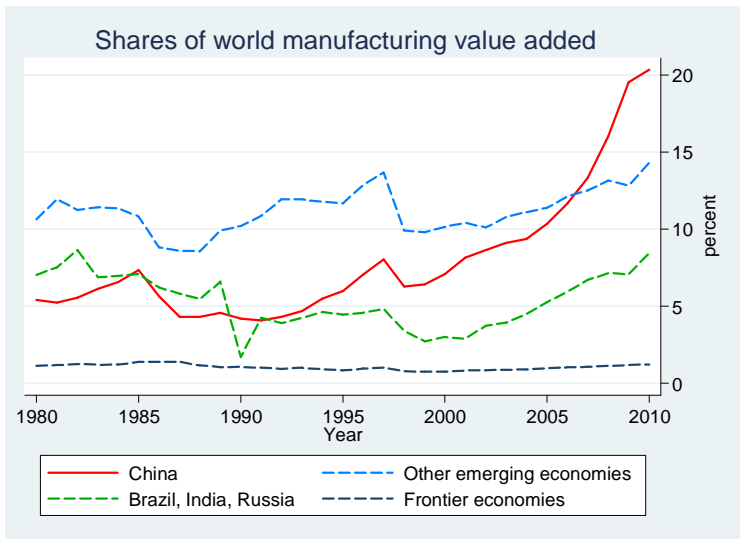
- Labor market shocks
 - IT revolution has led to automation of routine tasks, reducing demand for middle-skill workers (Autor & Dorn)
 - Rise of China has increased import competition for US manufacturing, reducing labor demand (Autor Dorn & Hanson)
 - Sharp rise in immigration of very low skilled, very high skilled has reduced wages for some US workers (Borjas)
- *How do we separate impact of these shocks from each other and from other confounding factors?*
 - Exploit variation across local labor markets

Agenda

- 1 Labor market shocks
- 2 Local Labor Market Exposure
- 3 Labor Market Impacts

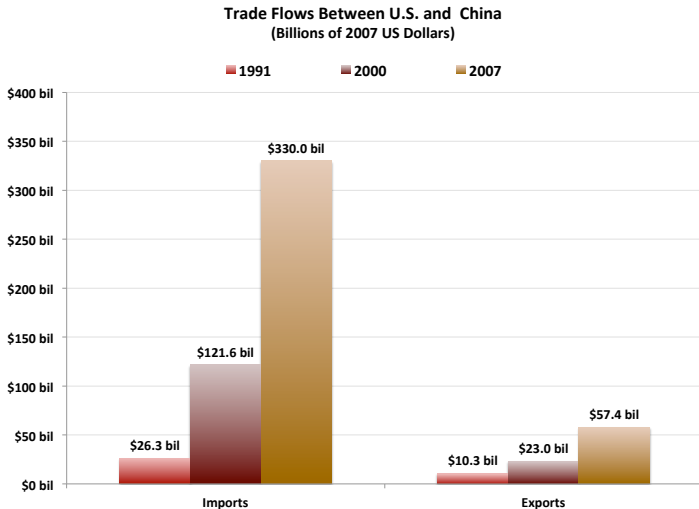
Trade and the US labor market

Surge in China's manufacturing export capacity



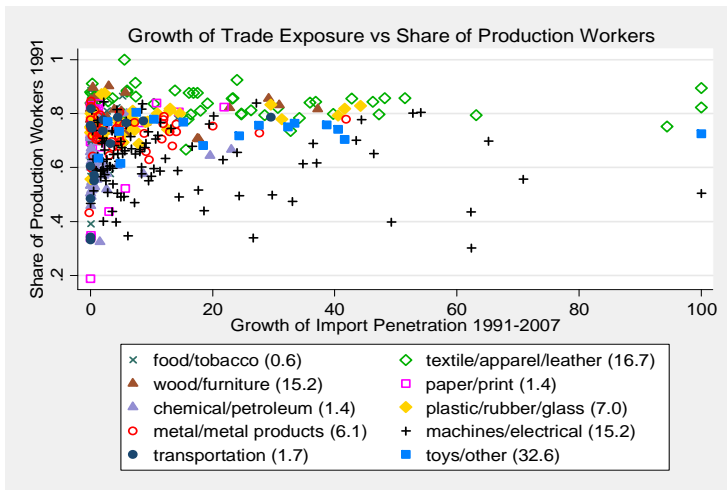
Trade and the US labor market

US imports from China >> US exports to China



Trade and the US labor market

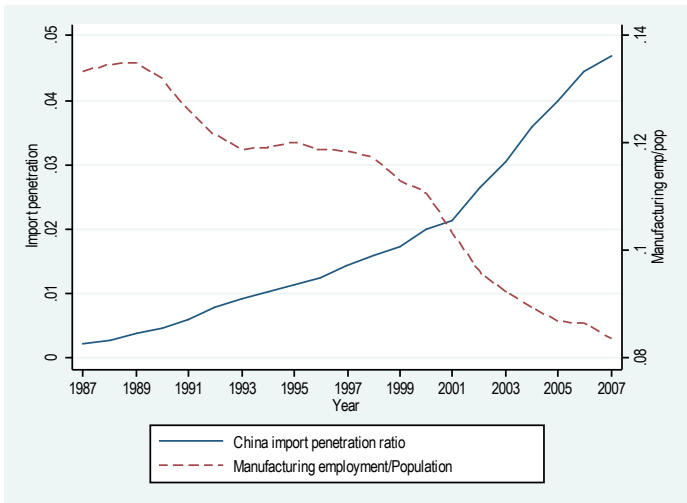
Production workers are highly exposed to China imports



Notes: Numbers in parentheses in the legend indicate average growth of import penetration within industry group, weighted by 1991 employment. Values for growth of import penetration are winsorized at 100.

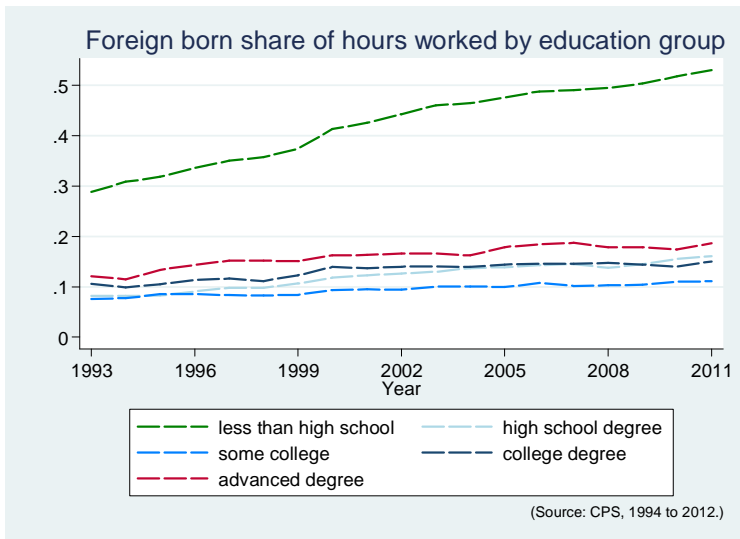
Trade and the US labor market

Import penetration and declining US manufacturing



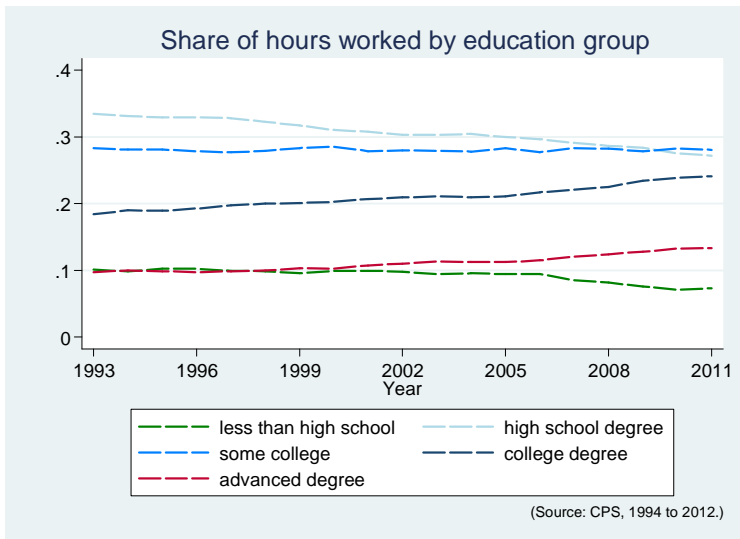
Immigration and the US labor market

Sharp increase in low-skilled immigration



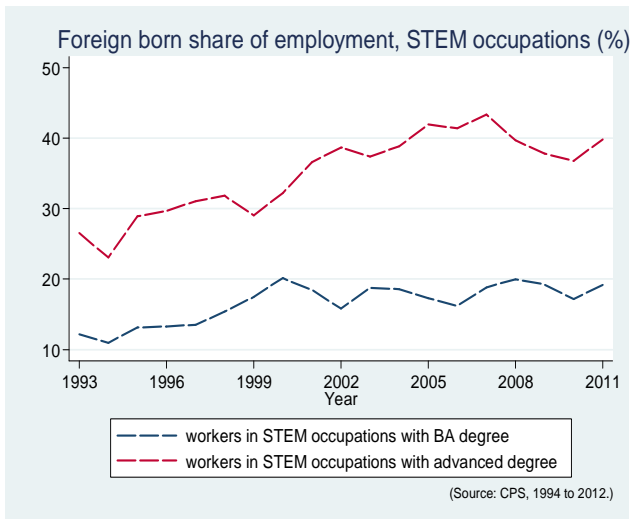
Immigration and the US labor market

But low-skilled are ever smaller share of total labor force



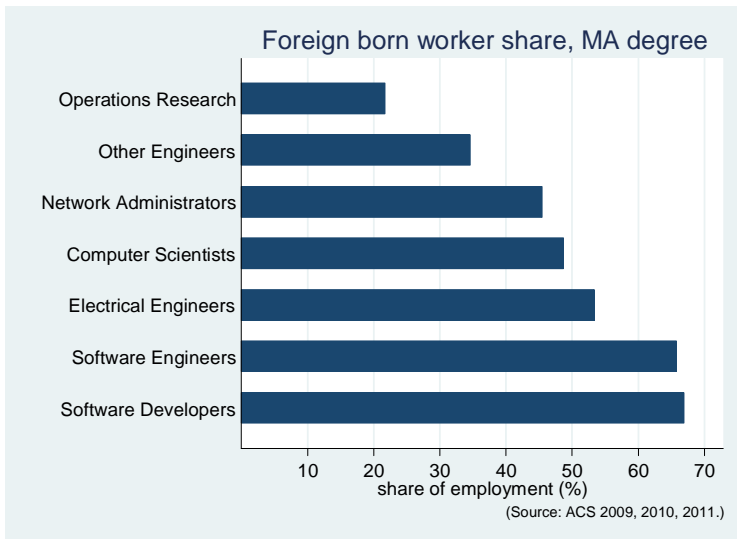
Immigration and the US labor market

Immigrants dominate STEM employment



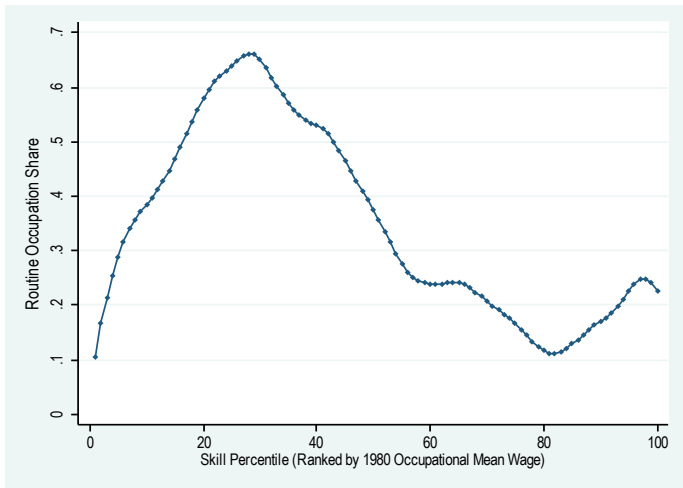
Immigration and the US labor market

Immigrants especially dominate in computer fields



Technology and the US labor market

Middle-wage workers are concentrated in routine tasks



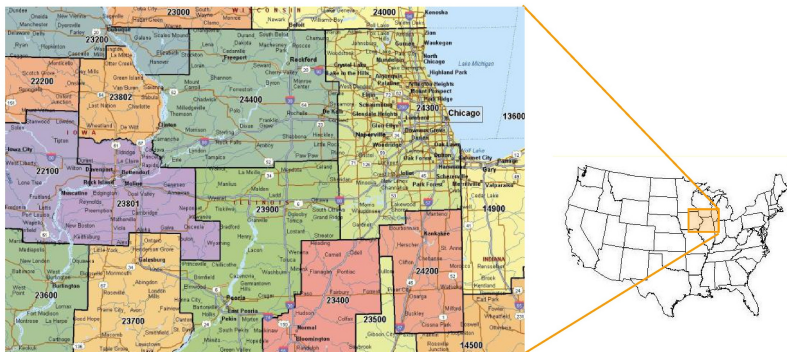
Share of 'Routine' Occupations by Occupational Skill Percentile

Agenda

- 1 Labor market shocks
- 2 Local Labor Market Exposure**
- 3 Labor Market Impacts

Commuting zones as geographic unit of analysis

- Cluster mainland US counties in 722 commuting zones—strong commuting ties within a CZ, weak commuting ties across CZs

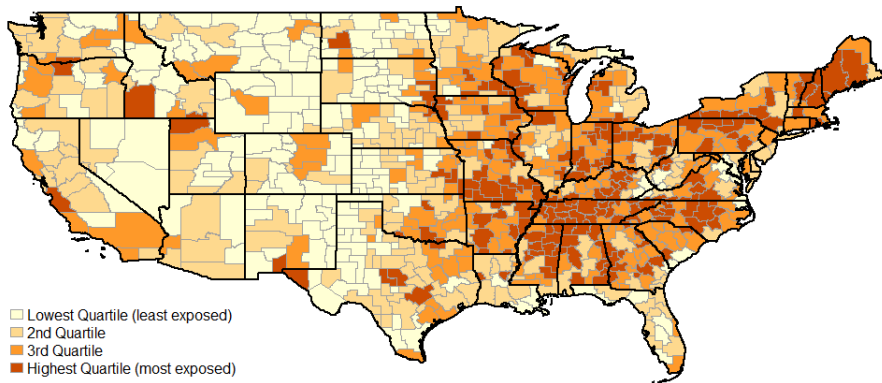


Spatial variation in exposure

- Which regions are exposed to labor-market shocks?
 - Regions differ strongly in their *industrial specialization*
 - *Initial patterns* create variation in later exposure to trade, technology (logic doesn't apply to immigration, which tracks labor demand)
 - Approach requires that outmigration response to shocks is weak
 - Regional exposure to trade with China
 - Sum over industries (1992-2007 change in *national industry imports per worker* \times *industry's 1991 share of CZ employment*)
 - Regional exposure to technology shocks
 - *1980 share of CZ employment in routine-task-intensive occupations* (as opposed to abstract-task or manual-task occupations)

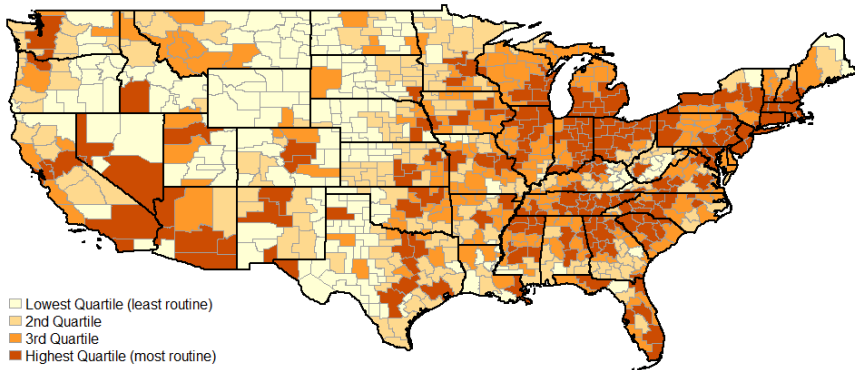
Regional exposure to trade with China

Trade Exposure by Commuting Zone, 1990-2007

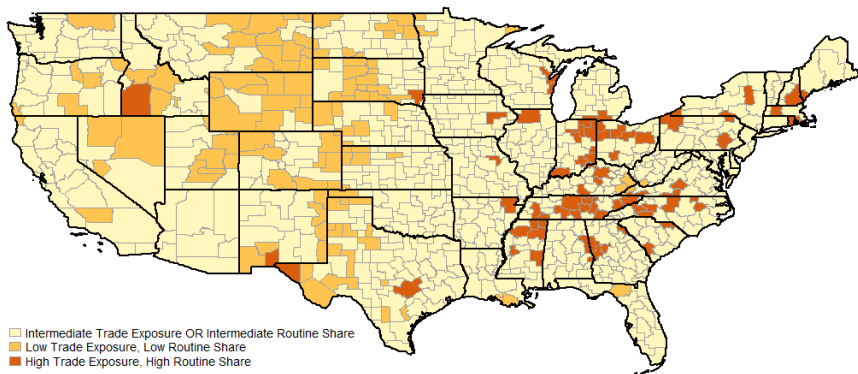


Regional exposure to routinization

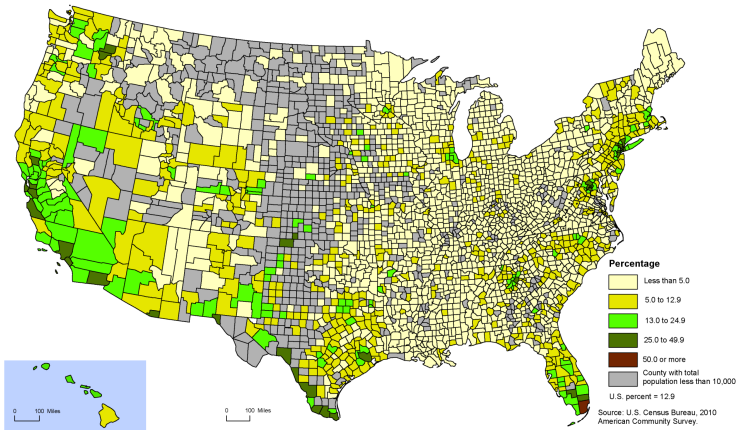
Routine Share by Commuting Zone, 1990-2007



Few regions are exposed to both trade and technology



Immigration-exposed regions *are not* trade-exposed regions



Agenda

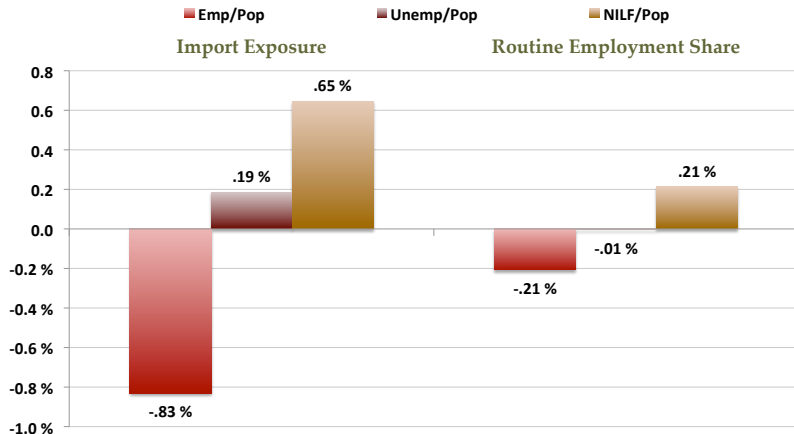
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Local employment effects of increased trade with China

Difference in impact for 75th vs. 25th percentiles of exposure

Import Exposure per Worker, Initial Routine Employment Share and
Changes in Employment Status in Commuting Zones, 1990-2007

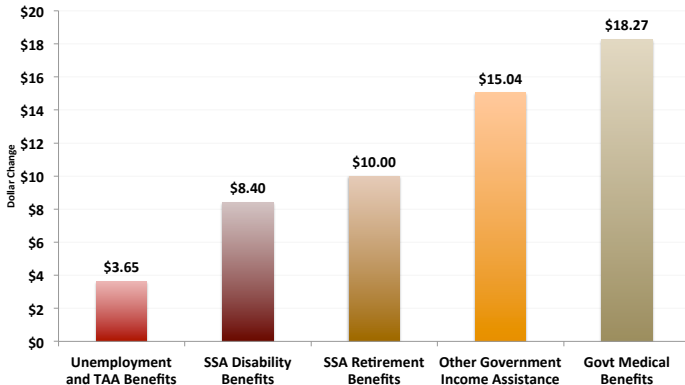
All Working-Age Adults



Local gov't transfer effects of increased trade with China

Imports from China and Change of Government Transfer Receipts in Commuting Zones (1990-2007)

*Effect of an \$1000 Per Worker Increase in Imports from China during
1990-2007 on Dollar Change of Annual Transfer Receipts per Capita*



Labor market impacts of immigration

Confounds abound

- Increase in immigration of “high school dropouts”
 - If substitutable with high school graduates, then impacts wash out
 - Borjas versus Card
 - Native HSDOs are progressively more negatively selected over time
 - National immigration wage impacts easily confounded
 - Local labor market immigration wage impacts hard to identify
- Increase in immigration of highly skilled STEM workers
 - Do high skilled immigrants significantly expand TFP?
 - Kerr & Lincoln (H1B workers), Hunt (patenting)

Discussion

Tentative answers and open questions

- Technology
 - IT has automated routine tasks, reducing demand for middle skills
 - *How much do we know about how IT has transformed workplace?*
- Trade
 - Rise of China has increased import competition for US manufacturing
 - *What about positive effects of US technology exports?*
- Immigration
 - Immigration of low, high skilled reduces wages for some US workers
 - *Do high-skill immigrants' contributions to TFP growth compensate?*